AMENDMENTS TO THE CLAIMS

1.   (currently   amended)   A   data   communications   network,
comprising:

a plurality of data communications rings, the plurality of rings including a first ring, a second ring, and a third ring,

wherein at least the second ring is configured for spatial reuse;   at least one first node coupled to the first ring, the at least one first node including an end station;

at least one second node coupled to the second ring;

a first bridge configured to link the first ring to the second ring; and

a second bridge configured to link the second ring to the third ring,

wherein the second bridge is operative (1) to learn an association between the first bridge and the end station coupled to the first ring, and, (2) upon receiving a packet destined for the end station: (i) to forward, on the second ring, the received packet as a broadcast transmission on the second ring between the second bridge and the first bridge in a manner indicating that the packet is to be examined by each of the at least one second node coupled to the second ring, in the event that the association between the first bridge and the end station coupled to the first

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ring has not yet been learned, and (ii) to forward, on the second ring, the received packet as a unicast transmission on the second ring between from the second bridge and to the first bridge, in the event that the association between the first bridge and the end station coupled to the first ring has been learned.

2.   (original) A data communications network according to claim 1, wherein the end station comprises an interworking bridge.

3.   (previously presented) A data communications network according to claim 2, wherein the interworking bridge provides transparent LAN services via the second ring to customers connected to external LAN segments.

4.   (previously presented) A data communications network according to claim 1, wherein the second ring is a resilient packet ring.

5.   (canceled)

6.   (currently amended) A data communications network according to claim 1, wherein the end station is a first end station, and

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further comprising a second end station, the second end station being coupled to the third ring, and wherein the first bridge is operative (1) to learn an association between the second bridge and the second end station coupled to the third ring, and (2) upon receiving a packet destined for the second end station: (i) to forward, on the second ring, the received packet as a broadcast transmission ~~on the second ring~~ between the first bridge and the second bridge in a manner indicating that the packet is to be examined by each of the at least one second node coupled to the second ring, in the event that the association between the second bridge and the second end station coupled to the third ring has not yet been learned, and (ii) to forward, on the second ring, the received packet as a unicast transmission ~~on the second ring~~ ~~between~~ from the first bridge ~~and~~ to the second bridge, in the event that the association between the second bridge and the second end station coupled to the third ring has been learned.

7.   (previously presented) A data communications network according to claim 6, wherein the first bridge learns the association between the second bridge and the second end station by monitoring the broadcast transmission of the second bridge on the second ring, the broadcast transmission of the second bridge

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including an identifier of the second bridge as an ingress bridge and an address of the second end station as a source of a message included in the broadcast transmission of the second bridge.

8.   (previously   presented)   A   data   communications   network according to claim 6, further comprising a third bridge, the third bridge being coupled to both the second and third rings as a backup to the second bridge, and wherein the second bridge is operative to send unicast update messages to the third bridge enabling the third bridge to keep track of the associations learned by the second bridge, and wherein the third bridge is operative upon failure of the second bridge to begin the learning of associations and the forwarding of packets on the second ring as broadcast or unicast transmissions depending on whether the respective associations have been learned.

9.   (currently   amended)   A   method   of   operating   a   data communications network having an end station, a plurality of data communications rings including a first ring, a second ring, and a third ring, at least the second ring being configured for spatial reuse, the end station being coupled to the first ring, at least one second node being coupled to the second ring, a first bridge

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for linking the first ring to the second ring, and a second bridge for linking the second ring to the third ring, the method comprising the steps of:

at the second bridge, learning an association between the first bridge and the end station coupled to the first ring; and

at the second bridge, upon receiving a packet destined for the end station: (i) in a first forwarding step, forwarding, on the second ring, the received packet as a broadcast transmission ~~on the second ring~~ between the second bridge and the first bridge in a manner indicating that the packet is to be examined by each of the at least one second node coupled to the second ring, in the event that the association between the first bridge and the end station coupled to the first ring has not yet been learned, and (ii) in a second forwarding step, forwarding, on the second ring, the received packet as a unicast transmission ~~on the second ring~~ ~~between~~ from the second bridge ~~and~~ to the first bridge, in the event that the association between the first bridge and the end station coupled to the first ring has been learned.

10. (original) A method according to claim 9, wherein the end station comprises an interworking bridge.

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11.   (previously presented) A method according to claim 10, wherein the interworking bridge provides transparent LAN services via the second ring to customers connected to external LAN segments.

12.   (previously presented) A method according to claim 9, wherein the second ring is a resilient packet ring.

13.   (canceled)

14.   (currently amended) A method according to claim 9, wherein the end station is a first end station, and wherein the network further includes a second end station, the second end station being coupled to the third ring, and further comprising:

at the first bridge, learning an association between the second bridge and the second end station coupled to the third ring; and

at the first bridge, upon receiving a packet destined for the second end station: (i) forwarding, on the second ring, the received packet as a broadcast transmission on the second ring between the first bridge and the second bridge in a manner indicating that the packet is to be examined by each of the at

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least one second node coupled to the second ring, in the event that the association between the second bridge and the second end station coupled to the third ring has not yet been learned, and (ii) forwarding, on the second ring, the received packet as a unicast transmission ~~on the second ring between~~ from the first bridge ~~and~~ to the second bridge, in the event that the association between the second bridge and the second end station coupled to the third ring has been learned.

15. (previously presented) A method according to claim 14, wherein the first bridge learns the association between the second bridge and the second end station by monitoring the broadcast transmission of the second bridge on the second ring, the broadcast transmission of the second bridge including an identifier of the second bridge as an ingress bridge and an address of the second end station as a source of a message included in the broadcast transmission of the second bridge.

16. (previously presented) A method according to claim 14, wherein the network further comprises a third bridge, the third bridge being coupled to both the second and third rings as a backup to the second bridge, and further comprising:

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at the second bridge, sending unicast update messages to the third bridge enabling the third bridge to keep track of the associations learned by the second bridge; and

at the third bridge, upon failure of the second bridge, beginning the learning of associations and the forwarding of packets on the second ring as broadcast or unicast transmissions depending on whether the respective associations have been learned.

17.   (currently amended) A data communications network according to claim 1,

wherein the packet contains first and second information, the first information indicating an identity of at least one of a source node and a destination node of the packet, the second information indicating an identity of at least one of an ingress node and an egress node for the packet, and

wherein the second bridge is operative (2) upon receiving a packet destined for the end station coupled to the first ring: (ii) to forward, on the second ring, the received packet as a unicast transmission on the second ring from the second bridge to the first bridge in the event that the association between the first bridge and the end station coupled to the first ring has

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been learned, the first information identifying the end station as one of the source node and the destination node of the packet, and the second information identifying the first bridge as one of the ingress node and the egress node for the packet.

18.   (currently amended) A method according to claim 9,

wherein the packet contains first and second information, the first information indicating an identity of at least one of a source node and a destination node of the packet, the second information indicating an identity of at least one of an ingress node and an egress node for the packet, and

wherein the second forwarding step includes forwarding, on the second ring, the received packet as a unicast transmission ~~on the second ring~~ from the second bridge to the first bridge in the event that the association between the first bridge and the end station coupled to the first ring has been learned, the first information identifying the end station as one of the source node and the destination node of the packet, and the second information identifying the first bridge as one of the ingress node and the egress node for the packet.

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